**Unpacked Content**

1. Introduction
   1. Webpage – a document stored on a web server which can be accessed and viewed using a web browser on a computer or mobile device.
      1. Can contain graphics, audio and video.
      2. Can include hyperlinks to other documents on the World Wide Web.
   2. Website – a collection of related webpages.
   3. A website is developed to build a relationship with a target audience and is created for the following reasons:
      1. Sell – sells products or services:
         1. Advertises, demonstrates, and describes the features of a product or service
         2. Provides customer support
         3. Often includes a database (or catalog) of products and services
      2. Inform – provides information about a cause, event, or organization
         1. May sell products, but not for profit
         2. May provide online tutorials and demonstrations
      3. Entertain – provides information or links to movies, music, magazines, etc.
      4. Social Networking - provides a network where people can interact online.
      5. Hybrid - may be a combination of any of the four purposes listed above.
2. Webpage Development Standards
   1. Standards - basic set of guidelines for authoring languages used to make webpages.
   2. They are enacted to make websites accessible to everyone regardless of:
      1. Culture
      2. Education
      3. Ability
      4. Resources
      5. Physical Limitations
   3. The World Wide Web Consortium (W3C) develops webpage development standards.
   4. Advantages of Web Standards
      1. Helps ensure webpages display consistently in all browsers.
      2. Results in faster website development.
      3. Results in faster downloading of websites.
      4. Provides equal access to information regardless of browser, operating system or hardware.
3. United States Website Accessibility Legislation
   1. Section 508 Amendment to the Rehabilitation Act requires US Federal Agencies to make information and data equally accessible to individuals and employees with disabilities.
   2. Applies only to US government agencies.
4. Authoring Languages
   1. HTML - Hypertext Markup Language
      1. The first authoring language used to create files that can be viewed on the World Wide Web.
      2. Embedded tags define the layout and appearance of the webpage.
      3. HTML is platform independent.
      4. HTML 4.01 is the current version.
   2. XML - Extensible Markup Language
      1. Designed to carry data, not to display it.
      2. Uses author-defined tags to identify data so that the data can be easily imported into other applications.
   3. XHTML - Extensible Hypertext Markup Language – uses XML code along with the HTML programming language to develop webpages.
      1. Results in cleaner code
      2. Tags are more descriptive of the data they contain
5. Style Sheets
   1. Describe how browsers should present or display information on a webpage.
   2. Give web developers more control over layout and page formatting.
   3. CSS – Cascading Style Sheets is a popular style sheet language.
   4. Advantages
      1. One style sheet can control the formatting for multiple webpages. An entire website can be reformatted by editing one file.
      2. Styles can also be set internally.
   5. Disadvantage - may alter the ability of some devices to accurately read and display information.
6. Text Editors – allow developers to write code in plain text.
   1. Examples – Notepad, Notepad 2 and WordPad
   2. Microsoft Word should not be used to create webpages.
7. Website Organization
   1. Storyboard the website and determine the best website structure for the purpose and content of the site.
   2. Website Structures
      1. Linear - Use for pages that users need to read in order
         1. Topics arranged in chronological, alphabetical, or series order
         2. Include links to next page and back to previous and index page
      2. Hierarchical – Use to organize complex bodies of information
         1. Looks like a family tree or a chain of command
         2. Pages are organized and linked by categories and subcategories
      3. Webbed - Use when the order in which the user views the pages does not matter
         1. Allows users to jump to any page from any page on the website
         2. Navigation bars or menus are included on all pages.
8. HTML Overview
   1. HTML Tags
      1. Define text, graphics, hypertext links, and other multimedia elements found on webpages.
      2. Tell the browser how to display the document
   2. Rules for using HTML tags
      1. HTML tags are enclosed inside angle brackets: < >.
      2. The tag name is keyed between the two angle brackets. Example: <body>.
      3. With a few exceptions, tags occur in pairs with an opening and a closing tag.
         1. Example: <html> is an opening tag
         2. Example: </html> is a closing tag.
         3. The forward slash ( / ) is used in the closing tag.
         4. Text between the opening and closing tags is affected by the tag.
            1. Example: <b>Hello World!</b>
            2. Makes Hello World appear in bold.
         5. Exceptions
            1. Some tags are empty tags, meaning they do not have a closing tag, they only have an opening tag.
            2. Examples of empty tags: <br>, <hr>, <img>, <meta>
      4. Attributes - provide additional information about tags and control how the tag will be interpreted by the browser.
         1. Some tags have multiple attributes.
         2. Rules for using attributes:
            1. Attributes are entered inside the opening tag but not in the closing tag.
            2. Attributes are keyed in name/value pairs. Syntax: name=”value”
            3. The attribute should have an equal symbol followed by the value or setting for the attribute.
            4. Attribute values should be enclosed inside quotation marks.
   3. Requirements of XHTML
      1. All tags must be in lowercase.
      2. All tags must have a closing tag. Empty tags should be closed in the opening tag by placing a space and forward slash before the closing angle bracket. Example: <br />
      3. All tags must be properly nested.
         1. Nesting refers to the order in which tags are opened and closed.
         2. The closing tags are entered in the reverse order from the opening tags to achieve proper nesting.
      4. The <html> tag must be the root tag for every document.
      5. These requirements also work in HTML 4.01, but are not required. However, students should follow these guidelines when creating their webpages.
   4. Saving and Testing (X)HTML files
      1. Save the file with an .html extension.
      2. This identifies the file as a webpage to the browser.
      3. Open the page in a web browser to view it and check for errors.

I. Website File Management

* 1. The files for a website should be saved in one folder called the root folder
     1. The home page of a website is named index.html
     2. Use lowercase letters for all folder and filenames.
     3. Files can be organized into different subfolders within the root directory if the website is very large.
  2. Use relative hyperlinks to point to other files within the website: news.html.
  3. Use absolute hyperlinks to point to other websites: [http://www.citizentimes.com](http://citizentimes.com/)

1. Creating a Webpage Using HTML
   1. Structure Tags
      1. The doctype declaration refers the browser to a Document Type Definition (DTD) which contains the rules for the markup language so the browser can display the page correctly.
         1. Strict – does not allow the use of deprecated tags or frames.
         2. Transitional – allows the use of deprecated tags but not frames.
         3. Frameset – allows the use of deprecated tags and frames.
         4. Deprecated tags are tags that are marked for deletion in future releases of the markup language. Style sheets should be used instead of those tags.
      2. <html> - Identifies the beginning of the webpage to the browser.
      3. <head> - Head Section – provides identifying information about the webpage that is used by browsers and search engines.
         1. <title> - specifies the title of the webpage that will appear in the browser’s title bar and in bookmarks. The <title> is inserted inside the <head> section.
         2. <meta> – provides information about the page for search engines and browsers.
            1. The <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" /> is required and identifies the character set used by the webpage.
            2. Syntax: <meta name=”name” content=”contents” />

<meta name=”author” content=”author’s name” /> - provides a search engine with the author’s name.

<meta name=”description” content=”Description” /> - provides a description of the webpage that will be displayed when a search engine shows the page’s URL in a hit list.

<meta name=”keywords” content=”list of keywords” /> - provides a list of words that a search engine should associate with the page.

* + 1. <body>
       1. Contains the majority of the data for the webpage.
       2. Contains all the content that will appear in the browser’s window.
  1. HTML Tag List
     1. Spacing tags:
        1. <br /> - inserts a ‘line break’ or a single space in the text.
        2. <p> - inserts a paragraph and adds a blank line before and after the paragraph text.
     2. Heading Sizes - <h1> through <h6> bold enclosed text and increase the text size with <h1> being the largest and <h6> being the smallest.
     3. Typeface Styles
        1. <b> - bolds the text between the opening and closing <b> tags.
        2. <i> - italicizes the text between the opening and closing <i> tags.
     4. Lists
        1. <ul> - unordered list. Creates a bulleted list. Used for items that do not need to be in a particular order.
        2. <ol> - ordered list. Creates a numbered list.
        3. <li> - list item. Items in each type of list are keyed between the opening and closing <li> tags.
     5. Images
        1. <img> - inserts an image into a webpage.
           1. Syntax: <img src=”image location” alt=”text describing the image” />
           2. The source attribute (src) identifies the location of the image file.

The image filename is case sensitive and must be keyed exactly as it is saved.

Images should be saved in the same location as the webpage.

* + - * 1. The alt attribute should always be used in case the image does not load properly in the browser window.
        2. Width and height attributes can be used to control the display size of image in the browser window. The value is stated in pixels.
    1. Navigation (linking) Tags
       1. Hypertext links are inserted by using anchor tags <a>.
       2. Hyperlinks can link to spots inside the same webpage or to pages outside the webpage.
       3. Hyperlinks can be used to automatically open the browser’s default email client and insert an email address in the To: section.
       4. Syntax: <a href=”URL”>Text to Click</a>
          1. The href attribute is short for hypertext reference and identifies the URL for the link to be opened in the browser.
          2. Text or an image tag MUST appear between opening and closing anchor tags to provide a place for the viewer to click in order to visit the link.
  1. Cascading Style Sheets
     1. Inline Styles – the code for the style is inserted inside the opening html tag.
        1. Syntax: <p style=”color:red”>
        2. Affects only the information between the opening and closing tag.
        3. Overrides internal and external style sheets.
     2. Internal style sheet – used to control the appearance of one webpage.
        1. The <style> tag is placed inside the <head> section of the webpage.
        2. Styles are defined between the opening and closing <style> tags.
        3. Internal style sheets override external style sheets.
     3. External style sheet – styles are defined in a separate text file saved with the .css extension.
        1. A code is inserted into the <head> section giving the location of the style sheet to be used.
        2. All webpages in a website can be linked to one external style sheet which helps keep all webpages in a website consistent in appearance
     4. Several tags and attributes have been deprecated in favor of using style sheets. (Examples below are shown as inline styles.)
        1. Alignment
           1. To center text using inline styles: <p style="text-align:center">Text</p>
           2. To right-align text using inline styles:   
              <p style=”text-align:right”>Text</p>
        2. Body Tag Attributes
           1. To set the background to a solid color using inline styles:   
              <body style="background-color:yellow">
           2. To set the background to an image using inline styles:   
              <body style="background-image:url('paper.gif')"> .
        3. Font
           1. To change the typeface: <p style=”font-family:arial”>
           2. To change the color: <p style=”color:red”>
           3. To change the size: <p style=”font-size:16px”>

1. Website Design Guidelines
   1. Body text
      1. Sans serif typefaces are easier to read on computer screens.
      2. If the typeface chosen is not supported by the browser, the browser will display the text in its default font so it is best to choose a typeface that is common to many computers.
      3. Left justified text is easier to read for webpages.
      4. Do not use underlining—it implies a hyperlink.
      5. Let users know if a link will move them to a page on a different website.
      6. Use headings that are descriptive and unique from one another to divide page content into short sections.
      7. Use descriptive headings for lists.
      8. Use abbreviations sparingly and define acronyms and abbreviations.
      9. Avoid jargon.
      10. Consider the target audience when selecting typefaces, text size, etc.
      11. Use contrasting colors for background and text to make text easy to read.
   2. Multimedia
      1. Use images, video, animation, and audio only when they help convey or support the website's message.
      2. Ensure that images load quickly.
      3. If large images are used, use thumbnails that link to the larger images.
      4. If plug-ins or players are required, include a link to a website where the plug-in or player can be downloaded.
         1. Provide controls so that users can stop, start, play, and adjust volume.
         2. Be aware that embedded media can dramatically increase the download time.
         3. Provide text descriptions or captions for images and video to make information accessible to viewers with disabilities.
   3. Miscellaneous Guidelines
      1. Place the organization's logo in a consistent place on every page.
      2. Include a title in the <head> section to be used if a viewer bookmarks the page (adds your page to their favorites)
      3. Include a link back to the home page from every page.
      4. Place the most important information near the top of the page.
      5. Be consistent in all design elements (fonts, colors, graphic size and location, alignment, and backgrounds) throughout the website.
2. Website Components
   1. The Home/Index Page
      1. Creates a positive first impression of the website.
      2. Communicates the purpose of the website.
      3. Should contain navigational links or menus to provide viewers with the links they will need to navigate the website.
   2. A business website should contain the following:
      1. About Us – a page defining the website’s purpose and goals.
      2. Contact Us – page containing contact information to make it easy for viewers to communicate with the business.
      3. Privacy Policy- page that informs viewers how their private information will be handled.
   3. The website may contain the following pages:
      1. Splash page - an introduction page that appears while the website is loading. Many readers do NOT like waiting for splash pages to load. They can be used to:
         1. Show a progress bar indicating the website is loading.
         2. Tell the user what kind of browser or software they need to view the site.
         3. Allow users to choose their language or country’s version of the website.
      2. Site Map – a basic skeleton of the website intended to help users quickly locate information on the website.
3. Publishing Websites
   1. Before Publishing
      1. Check the site in multiple browsers.
      2. Validate source code.
      3. Check spelling and relative and absolute links.
   2. Choose a Web Host.
      1. A host computer is also called a web server and is a computer that stores webpages.
      2. Sends webpages to viewers over the Internet upon request.
   3. Obtain a Domain Name.
      1. Use assigned name provided by web hosting service.
      2. Register and purchase a unique name for a fixed period of time.
   4. Publish - upload files to the web host/server